Title (en)

POWER TRANSISTOR WITH PROTECTED CHANNEL

Title (de)

LEISTUNGSTRANSISTOR MIT GESCHÜTZTEM KANAL

Title (fr)

TRANSISTOR DE PUISSANCE AYANT UN CANAL PROTÉGÉ

Publication

EP 2232560 A4 20120502 (EN)

Application

EP 09703043 A 20090114

Priority

- US 2009031019 W 20090114
- US 2100908 P 20080114

Abstract (en)

[origin: WO2009091840A2] A transistor includes a substrate, a well formed in the substrate, a drain including a first impurity region implanted in the well, a source including a second impurity region implanted in the well and spaced apart from the first impurity region, a channel for current flow from the drain to the source, and a gate to control a depletion region between the source and the drain The channel has an intrinsic breakdown voltage, and the well, drain and source are configured to provide an extrinsic breakdown voltage lower than the intrinsic breakdown voltage and such that breakdown occurs in a breakdown region in the well located outside the channel and adjacent the drain or the source.

IPC 8 full level

H01L 21/336 (2006.01); **H01L 29/78** (2006.01)

CPC (source: EP US)

H01L 21/265 (2013.01 - US); **H01L 29/0878** (2013.01 - EP US); **H01L 29/7816** (2013.01 - EP US); H01L 29/0696 (2013.01 - EP US); H01L 29/402 (2013.01 - EP US); H01L 29/42368 (2013.01 - EP US)

Citation (search report)

- [XAI] US 2002050619 A1 20020502 - KAWAGUCHI YUSUKE [JP], et al
- [XAI] US 2006022294 A1 20060202 - PETZOLD KLAUS [DE], et al
- See references of WO 2009091840A2

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO SE SI SK TR

DOCDB simple family (publication)

WO 2009091840 A2 20090723; **WO 2009091840 A3 20090924**; CN 101933147 A 20101229; CN 101933147 B 20120704; EP 2232560 A2 20100929; EP 2232560 A4 20120502; JP 2011510492 A 20110331; JP 2014057088 A 20140327; JP 5448100 B2 20140319; TW 200941726 A 20091001; TW I470797 B 20150121; US 2009224333 A1 20090910; US 2014134834 A1 20140515; US 8664728 B2 20140304; US 9224603 B2 20151229

DOCDB simple family (application)

US 2009031019 W 20090114; CN 200980103689 A 20090114; EP 09703043 A 20090114; JP 2010542433 A 20090114; JP 2013229546 A 20131105; TW 98101258 A 20090114; US 201414159971 A 20140121; US 35386609 A 20090114